

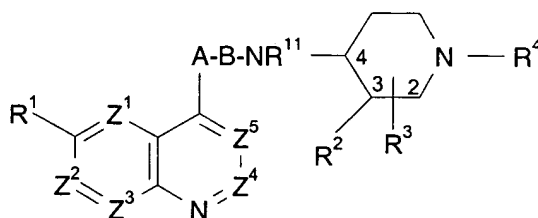
Amendments to the claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

What is claimed is:

1. **(Currently Amended).** A compound of formula (I) or a pharmaceutically acceptable derivative thereof:



(I)

wherein:

one of Z¹, Z², Z³, Z⁴ and Z⁵ is N, one is CR^{1a}, and the remainder are CH, or one of Z¹, Z², Z³, Z⁴ and Z⁵ is CR^{1a}, and the remainder are CH;

R¹ and R^{1a} are independently hydrogen; hydroxy; (C₁₋₆)alkoxy optionally substituted by (C₁₋₆)alkoxy, amino, piperidyl, guanidino or amidino optionally N-substituted by one or two (C₁₋₆)alkyl, acyl or (C₁₋₆)alkylsulphonyl groups, CONH₂, hydroxy, thiol, (C₁₋₆)alkylthio, heterocyclylthio, heterocycloxy, arylthio, aryloxy, acyloxy or (C₁₋₆)alkylsulphonyloxy; (C₁₋₆)alkoxy-substituted(C₁₋₆)alkyl; halogen; (C₁₋₆)alkyl; (C₁₋₆)alkylthio; nitro; azido; acyl; acyloxy; acylthio; (C₁₋₆)alkylsulphonyl; (C₁₋₆)alkylsulphoxide; arylsulphonyl; arylsulphoxide or an amino, piperidyl, guanidino or amidino group optionally N-substituted by one or two (C₁₋₆)alkyl, acyl or (C₁₋₆)alkylsulphonyl groups; **and**
~~additionally when Z⁵ is CR^{1a}, R^{1a} may be (C₁₋₄)alkyl-CO₂H or (C₁₋₄)alkyl-CONH₂ in which the C₁₋₄ alkyl is substituted by R¹²; (C₁₋₄)alkyl-substituted by amino, cyano or guanidino; aminocarbonyl optionally substituted by hydroxy, (C₁₋₆)alkyl, hydroxy(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylsulphonyl, trifluoromethylsulphonyl, (C₂₋₆)alkenylsulphonyl, (C₁₋~~

~~6)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl, (C₂₋₆)alkenylcarbonyl, or CH(R¹³)CO₂H or CH(R¹³)CONH₂ optionally further substituted by (C₁₋₆)alkyl, hydroxy(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl or (C₂₋₆)alkenyl; hydroxy(C₁₋₆)alkyl; carboxy; cyano or (C₁₋₆)alkoxycarbonyl; wherein R¹³ is a natural α -amino acid side chain, or its enantiomer;~~

provided that when one of Z¹, Z², Z³, Z⁴ and Z⁵ is CR^{1a} and the remainder are CH, then R¹ is not hydrogen;

R² is hydrogen;

R³ is hydrogen; or

R³ is in the 2-, 3- or 4-position and is:

carboxy; (C₁₋₆)alkoxycarbonyl; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C₁₋₆)alkyl, hydroxy(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylsulphonyl, trifluoromethylsulphonyl, (C₂₋₆)alkenylsulphonyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl or (C₂₋₆)alkenylcarbonyl and optionally further substituted by (C₁₋₆)alkyl, hydroxy(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl or (C₂₋₆)alkenyl; cyano; tetrazolyl; 2-oxo-oxazolidinyl optionally substituted by R¹⁰; 3-hydroxy-3-cyclobutene-1,2-dione-4-yl; 2,4-thiazolidinedione-5-yl; tetrazol-5-ylaminocarbonyl; 1,2,4-triazol-5-yl optionally substituted by R¹⁰; or 5-oxo-1,2,4-oxadiazol-3-yl; or (C₁₋₄)alkyl or ethenyl optionally substituted with any of the substituents listed above for R³ and/or up to 3 groups R¹² independently selected from:

thiol; halogen; (C₁₋₆)alkylthio; trifluoromethyl; azido; (C₁₋₆)alkoxycarbonyl; (C₁₋₆)alkylcarbonyl; (C₂₋₆)alkenyloxycarbonyl; (C₂₋₆)alkenylcarbonyl; hydroxy optionally substituted by (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl, (C₂₋₆)alkenylcarbonyl or aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylcarbonyl or (C₂₋₆)alkenylcarbonyl; amino optionally mono- or disubstituted by (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl, (C₂₋₆)alkenylcarbonyl, (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylsulphonyl, (C₂₋₆)alkenylsulphonyl or aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl or (C₂₋₆)alkenyl; aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl, hydroxy(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl,

(C₂₋₆)alkenyloxycarbonyl or (C₂₋₆)alkenylcarbonyl and optionally further substituted by (C₁₋₆)alkyl, hydroxy(C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl or (C₂₋₆)alkenyl; oxo; (C₁₋₆)alkylsulphonyl; (C₂₋₆)alkenylsulphonyl; or (C₁₋₆)aminosulphonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl or (C₂₋₆)alkenyl; in addition when R³ is disubstituted with a hydroxy or amino containing substituent and a carboxy containing substituent these may together form a cyclic ester or amide linkage, respectively; or

when R³ is in the 3-position R² and R³ may together form a divalent residue =CR⁵¹R⁶¹ where R⁵¹ and R⁶¹ are independently selected from hydrogen, (C₁₋₆)alkyl, (C₂₋₆)alkenyl, aryl(C₁₋₆)alkyl and aryl(C₂₋₆)alkenyl, any alkyl or alkenyl moiety being optionally substituted by up to three R¹² groups;

R⁴ is (C₅₋₁₂)alkyl, optionally substituted phenyl(C₂₋₃)alkyl or optionally substituted phenyl(C₃₋₄)alkenyl;

~~R⁴ is a group -CH₂-R⁵ in which R⁵ is selected from:~~

~~(C₁₋₁₂)alkyl; hydroxy(C₁₋₁₂)alkyl; (C₁₋₁₂)alkoxy(C₁₋₁₂)alkyl; (C₁₋₁₂)alkanoyloxy(C₁₋₁₂)alkyl; (C₃₋₆)cycloalkyl; hydroxy(C₃₋₆)cycloalkyl; (C₁₋₁₂)alkoxy(C₃₋₆)cycloalkyl; (C₁₋₁₂)alkanoyloxy(C₃₋₆)cycloalkyl; (C₃₋₆)cycloalkyl(C₁₋₁₂)alkyl; hydroxy-, (C₁₋₁₂)alkoxy- or (C₁₋₁₂)alkanoyloxy-(C₃₋₆)cycloalkyl(C₁₋₁₂)alkyl; cyano; cyano(C₁₋₁₂)alkyl; (C₂₋₁₂)alkenyl; (C₂₋₁₂)alkynyl; tetrahydrofuryl; mono- or di-(C₁₋₁₂)alkylamino(C₁₋₁₂)alkyl; acylamino(C₁₋₁₂)alkyl; (C₁₋₁₂)alkyl- or acyl-aminocarbonyl(C₁₋₁₂)alkyl; mono- or di-(C₁₋₁₂)alkylamino(hydroxy)-(C₁₋₁₂)alkyl; optionally substituted phenyl(C₁₋₁₂)alkyl; phenoxy(C₁₋₁₂)alkyl or phenyl(hydroxy)(C₁₋₁₂)alkyl; optionally substituted diphenyl(C₁₋₁₂)alkyl; optionally substituted phenyl(C₂₋₁₂)alkenyl; optionally substituted benzoyl or benzoyl(C₁₋₁₂)alkyl; optionally substituted heteroaryl or heteroaryl(C₁₋₁₂)alkyl; and optionally substituted heteroaroyle or heteroaroyle(C₁₋₁₂)alkyl;~~

A is CR⁶R⁷ and B is SO₂, CO or CH₂ wherein:

each of R⁶ and R⁷ is independently selected from: hydrogen; (C₁₋₆)alkoxy; thiol; (C₁₋₆)alkylthio; halo; trifluoromethyl; azido; (C₁₋₆)alkyl; (C₂₋₆)alkenyl; (C₁₋₆)alkoxycarbonyl; (C₁₋₆)alkylcarbonyl; (C₂₋₆)alkenyloxycarbonyl; (C₂₋₆)alkenylcarbonyl; hydroxy, amino

or aminocarbonyl optionally substituted as for corresponding substituents in R³; (C₁₋₆)alkylsulphonyl; (C₂₋₆)alkenylsulphonyl; or (C₁₋₆)aminosulphonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl or (C₂₋₆)alkenyl;

R¹⁰ is selected from (C₁₋₄)alkyl; (C₂₋₄)alkenyl and aryl any of which may be optionally substituted by a group R¹² as defined above; carboxy; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylsulphonyl, trifluoromethylsulphonyl, (C₂₋₆)alkenylsulphonyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl or (C₂₋₆)alkenylcarbonyl and optionally further substituted by (C₁₋₆)alkyl or (C₂₋₆)alkenyl; (C₁₋₆)alkylsulphonyl; trifluoromethylsulphonyl; (C₂₋₆)alkenylsulphonyl; (C₁₋₆)alkoxycarbonyl; (C₁₋₆)alkylcarbonyl; (C₂₋₆)alkenyloxycarbonyl; and (C₂₋₆)alkenylcarbonyl;

and R¹¹ is hydrogen; or (C₁₋₄)alkyl or (C₂₋₄)alkenyl optionally substituted with 1 to 3 groups selected from:
carboxy; (C₁₋₄)alkoxycarbonyl; (C₁₋₄)alkylcarbonyl; (C₂₋₄)alkenyloxycarbonyl; (C₂₋₄)alkenylcarbonyl; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C₁₋₄)alkyl, hydroxy(C₁₋₄)alkyl, aminocarbonyl(C₁₋₄)alkyl, (C₂₋₄)alkenyl, (C₁₋₄)alkylsulphonyl, trifluoromethylsulphonyl, (C₂₋₄)alkenylsulphonyl, (C₁₋₄)alkoxycarbonyl, (C₁₋₄)alkylcarbonyl, (C₂₋₄)alkenyloxycarbonyl or (C₂₋₄)alkenylcarbonyl; cyano; tetrazolyl; 2-oxo-oxazolidinyl optionally substituted by R¹⁰; 3-hydroxy-3-cyclobutene-1,2-dione-4-yl; 2,4-thiazolidinedione-5-yl; tetrazol-5-ylaminocarbonyl; 1,2,4-triazol-5-yl optionally substituted by R¹⁰; 5-oxo-1,2,4-oxadiazol-3-yl; thiol; halogen; (C₁₋₄)alkylthio; trifluoromethyl; azido; hydroxy optionally substituted by (C₁₋₄)alkyl, (C₂₋₄)alkenyl, (C₁₋₄)alkoxycarbonyl, (C₁₋₄)alkylcarbonyl, (C₂₋₄)alkenyloxycarbonyl, (C₂₋₄)alkenylcarbonyl; oxo; (C₁₋₄)alkylsulphonyl; (C₂₋₄)alkenylsulphonyl; or (C₁₋₄)aminosulphonyl wherein the amino group is optionally substituted by (C₁₋₄)alkyl or (C₂₋₄)alkenyl.

2. **(Currently Amended)** A compound according to claim 1 wherein:
- (a) Z¹ is N, Z³ is CH or CF, and Z², Z⁴, and Z⁵ -Z⁵ are CH,
 - (b) ~~Z⁴-Z⁵ are each CH~~, Z³ is CH or CF and Z¹, Z², Z⁴, and Z⁵ are CH, or
 - (c) Z⁵ is N, Z³ is CH or CF, and Z¹, Z², and Z⁴ -Z⁴ are CH,
and ~~Z³ may instead be CF~~.

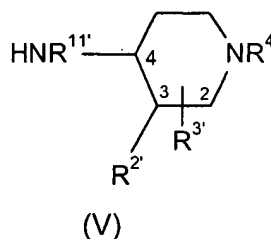
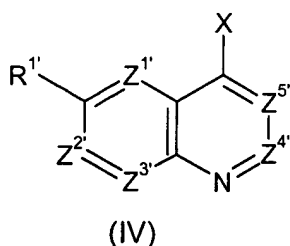
3. **(Previously Presented).** A compound according to claim 1 wherein R¹ and R^{1a} are independently methoxy, amino(C₃₋₅)alkyloxy, guanidino(C₃₋₅)alkyloxy, piperidyl(C₃₋₅)alkyloxy, nitro or fluoro.
4. **(Previously Presented).** A compound according to claim 1 wherein R³ is hydrogen; (C₁₋₄)alkyl; ethenyl; optionally substituted 1-hydroxy(C₁₋₄)alkyl; carboxy; (C₁₋₆)alkoxycarbonyl; optionally substituted aminocarbonyl; carboxy(C₁₋₄)alkyl; optionally substituted aminocarbonyl(C₁₋₄)alkyl; cyano(C₁₋₄)alkyl; optionally substituted 2-oxo-oxazolidinyl or optionally substituted 2-oxo-oxazolidinyl(C₁₋₄alkyl).
5. **(Previously Presented).** A compound according to claim 1 wherein R³ is in the 3-position and the substituents at the 3- and 4-position of the piperidine ring are *cis*.
6. **(Previously Presented).** A compound according to claim 1 wherein A is CHOH or CH₂, and B is CH₂.
7. **(Previously Presented).** A compound according to claim 1 wherein R¹¹ is hydrogen.
8. **(Cancelled).**
9. **(Original).** A compound according to claim 1 selected from:
1-Heptyl-4-[2-(R)-hydroxy-2-(6-methoxyquinolin-4-yl)]ethylaminopiperidine;
cis-3-(R/S)-Ethoxycarbonyl-1-heptyl-4-(S/R)-[2-(R)-hydroxy-2-(6-methoxyquinolin-4-yl)]ethylaminopiperidine;
cis-3-(R/S)-Aminocarbonyl-1-heptyl-4-(S/R)-[2-(R)-hydroxy-2-(6-methoxyquinolin-4-yl)]ethylaminopiperidine;
cis-1-Heptyl-3-(R/S)-hydroxymethyl-4-(S/R)-[2-(R)-hydroxy-2-(6-methoxyquinolin-4-yl)]ethylaminopiperidine;
cis-3-(R/S)-carboxy-1-heptyl-4-(S/R)-[2-(R)-hydroxy-2-(6-methoxyquinolin-4-yl)]ethylaminopiperidine;
1-Heptyl-4-[2-(S)-hydroxy-2-(6-methoxyquinolin-4-yl)]ethylaminopiperidine; or
1-Heptyl-4-[2-(R)-hydroxy-2-(6-methoxyquinolin-4-yl)]ethyl(N-methyl)aminopiperidine;
or a pharmaceutically acceptable derivative thereof.

10. **(Original).** A pharmaceutical composition comprising a compound of formula (I) as defined in claim 1, or a pharmaceutically acceptable derivative thereof, and a pharmaceutically acceptable carrier.

11. **(Original).** A method of treatment of bacterial infections in mammals which method comprises the administration to a mammal in need of such treatment an effective amount of a compound of formula (I) as defined in claim 1, or a pharmaceutically acceptable derivative thereof.

12. **(Cancelled).**

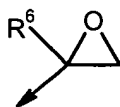
13. **(Original).** A process for preparing a compound of formula (I) as defined in claim 1, or a pharmaceutically acceptable derivative thereof, which process comprises: reacting a compound of formula (IV) with a compound of formula (V):



wherein Z1', Z2', Z3', Z4', Z5', R11', R1', R2', R3' and R4' are Z1, Z2, Z3, Z4, Z5, R11, R1, R2, R3 and R4 as defined in formula (I) or groups convertible thereto;
and:

- (i) X is CR⁶R⁷SO₂W
- (ii) X is A'-COW
- (iii) X is CR⁶=CH₂
- (iv) X is oxirane and

in which W is a leaving group e.g. halogen, A' is A as defined in formula (I), or a group convertible thereto, and oxirane is:



wherein R^6 and R^7 are as defined in formula (I);
and thereafter optionally or as necessary converting Z^1 , Z^2 , Z^3 , Z^4 , Z^5 , A', $R^{11'}$, R^1 , R^2 , R^3 and R^4 to Z^1 , Z^2 , Z^3 , Z^4 , Z^5 , A, R^{11} , R^1 , R^2 , R^3 and R^4 , converting A-B to other A-B, interconverting R^{11} , R^1 , R^2 , R^3 and/or R^4 , and/or forming a pharmaceutically acceptable derivative thereof.